

DISTRIBUTIONAL HISTORY OF
LYCOPUS EUROPAEUS
(EUROPEAN WATER-HOREHOUND)
IN NORTH AMERICA¹

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Within the past one hundred years, *Lycopus europaeus* has become naturalized in northeastern North America from Europe. Early literature and herbarium records dating as far back as about 1860 indicate that the species was first found on ballast or in waste places in the eastern seaports of Norfolk, Camden, Philadelphia, Wilmington, New York City, and Boston. Since then the species has spread via waterways along the coast and inland where it now occurs along ditches, rivers, canals, lakes, and in marshes and waste places. Small (1933), Fernald (1950), Gleason (1952), and Gleason and Cronquist (1963) report *L. europaeus* as established in waste places and along roadsides on the east coast of the United States from Massachusetts to Virginia, Alabama, Mississippi, and Louisiana, but rarely inland. Henderson (1962) gives its distribution as only from Massachusetts to Virginia. Recent reports of additional locations are North Carolina (Radford, Ahles, and Bell, 1968), Nova Scotia (Erskine, 1951), the St. Lawrence River valley in Quebec (Rousseau, 1968), Ontario (Montgomery, 1957), and the western basin of Lake Erie (Stuckey, 1968). The present known distribution in northeastern North America is given in figure 1.

Lycopus europaeus L., a member of the mint family (Labiatae), occurs outside of North America over most of Europe and into western Asia. Several of its common names are European water-horehound, marsh-horehound, green-archangel, bitter bugle-weed, gipsy-herb, and gipsy-wort. The plants are stout, with stems ranging 0.4-1 meter

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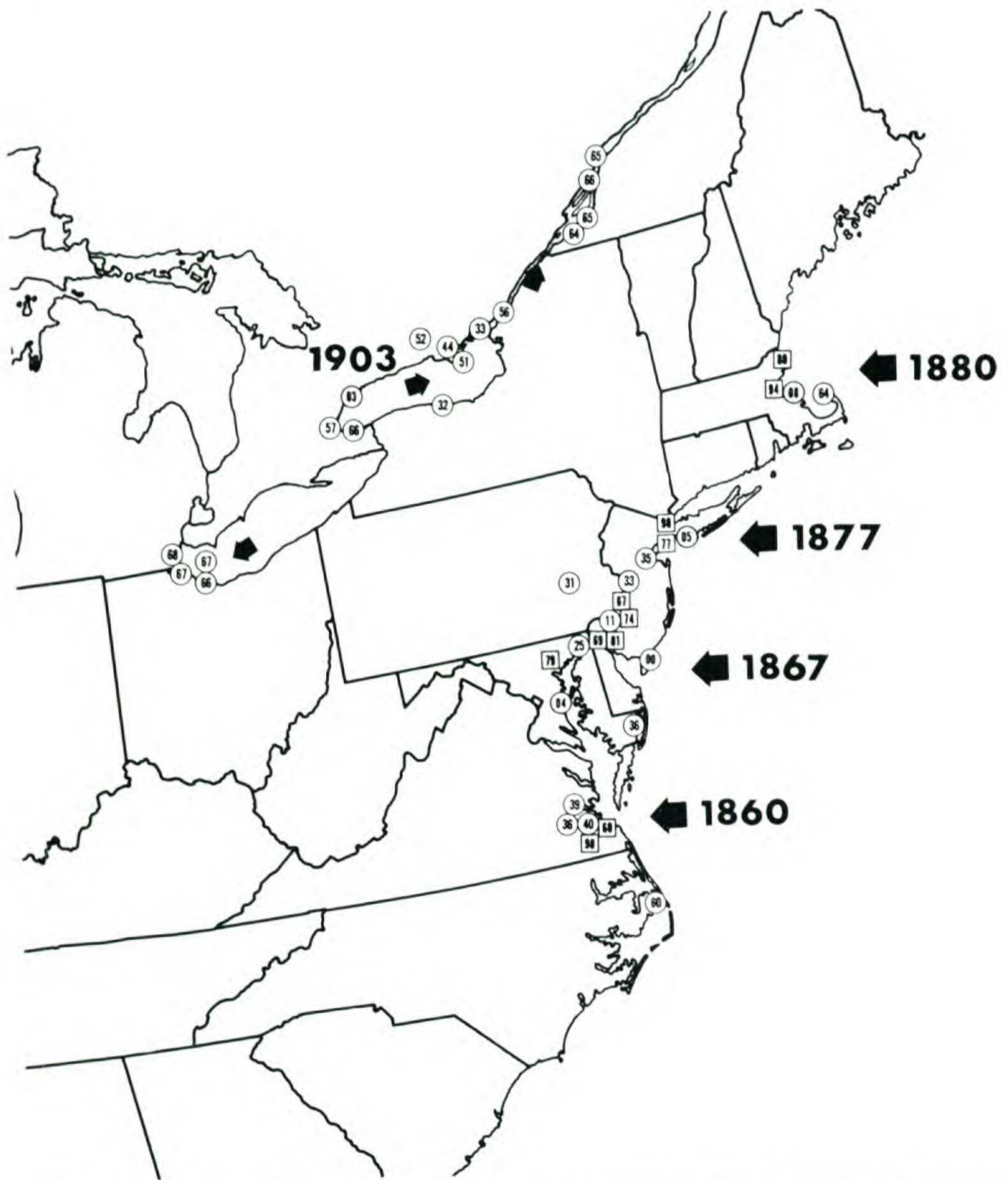


Fig. 1. Known distribution of *Lycopodium europaeus* (European water-horehound) in eastern North America based on herbarium specimens seen and other records cited in this paper. The position of each square or circle represents a locality where a plant has been collected. Numbers in the squares are the last two digits for the year in which the plant was collected if before 1900, and the numbers in circles are the last two digits for the year of collection if since 1900. The oldest known collection is mapped for each locality. The four major areas of apparent entry and establishment for the species in North America are marked by the large black arrows with the date of the earliest known collection for that area. The smaller black arrows indicate the possible migration pattern that the species has taken in the Lake Ontario, St. Lawrence River, and Lake Erie region.

in height, freely branched, and usually pubescent. The leaves are 4-12 centimeters long and 1.5-5 centimeters wide, ovate, ovate-lanceolate, to narrowly lanceolate in general outline with blades sinuately lobed, but not pinnatifid. The white-petaled flowers are somewhat inconspicuous in the axils of the leaves, where later in the year four nutlets are formed each with a heavy corky crest (Henderson, 1962). The species is morphologically very similar to the widespread native American species, *L. americanus*, with which it has often been confused. Characteristics separating the two species are not always well differentiated, and the possibility of hybridization should be investigated. We have neither delimited the character distinctions and possible intermediates between these two species, nor have we attempted to distinguish between typical *L. europaeus* var. *europaeus* and var. *mollis* (Kern.) Briq.

Early Literature Records

One of the difficulties in working out the North American distributional history of *L. europaeus* is that some of the early reports in the literature are considered unreliable because the taxonomy of the genus was not known or understood. For example, the earliest known North American report is by Walter (1788) in his *Flora Caroliniana*. This record has since been referred to *L. americanus* (Henderson, 1962). Bigelow (1824) noted *L. europaeus* for Boston and vicinity. His description, "Lower leaves cut, upper leaves lanceolate, serrate," portrays *L. americanus*, a species which he did not report. Riddell (1834) in his *Synopsis of the Flora of the Western States* listed only *L. europaeus* and *L. virginicus* of which the former is probably the common and widespread *L. americanus*. Gray (1858) reported *L. europaeus* and two varieties, var. *sinuatus* and var. *integrifolius*. These two varieties are currently recognized as *L. americanus* and *L. rubellus*, respectively. Gray's description for *L. europaeus* could be construed to apply to either *L. americanus* or *L. europaeus*: "Stem sharply 4-angled . . . leaves ovate-oblong or oblong-lanceolate, sinuate-

toothed or pinnatifid, more or less petioled . . . nutlets . . . equalling or exceeding the calyx tube." Gray considered typical *L. europaeus* to occur only in Europe. Later, Gray (1867) added a third variety, var. *sessilifolius*, which is currently recognized as *L. sessilifolius*. Gray (1870) revised the taxonomy of *Lycopus* in North America and for the first time recognized the presence of the European species, *L. europaeus*, as an adventive in North America. The reports by Walter (1788), Bigelow (1824), Riddell (1834), and Gray (1858, 1867) have created confusion for later authors. We have discarded these and other erroneous records of *L. europaeus*, all of which are summarized (table 1) along with the probable corrected name for each report and the author(s) who made the correction.

Early Herbarium Records from Virginia, Pennsylvania, and New Jersey

The time and place of introduction of *L. europaeus* in North America is obscure. The earliest known collection (GH, PH) was made by Elias Durand at Norfolk, Virginia, but is without a date. Durand was most active as a plant collector from about 1852 to 1868 (Pennell, 1936). This collection is mapped with the chosen date 1860 (fig. 1). The first known specimen with more adequate data was collected from ballast on Petty's Island in the Delaware River, New Jersey, 1 October 1867 (*Parker s.n.*, GH). These two collections were cited by Gray (1870) as supposedly the first authentic records of *L. europaeus* for North America.

Later records from Virginia come from Norfolk County between Princess Anne and Berkeley, 13 July 1893 (*Heller* 1072, F, GH, MO, NY, PH, US) and "from about wharf" near Suffolk, Nansemond County, 19 July 1898 (*Kearney* 1740, OS, US). By the late 1930's the species apparently had become established and had spread locally as evidenced by collections of M. L. Fernald and Bayard Long from marshes, swales, and roadsides in Nansemond, Isle of Wight, and Surry counties of southeastern Virginia. Their records,

obtained from 1936 to 1941, are summarized in Fernald (1947).

The early records of *L. europaeus* for the Philadelphia area come from ballast as indicated on the labels of plants collected at Camden, New Jersey by C. F. Parker (Petty's Island, 1 October 1867, GH; Kaighn's Point, year 1877, GH; Camden, August 1874, MO, NY, 6 September 1879, PH) and by I. C. Martindale (Camden, August 1876, MO, September 1876, US, July 1877, F). Petty's Island and Kaighn's Point along the Delaware River at Camden and The Ballast Ground at the Navy Yard in Philadelphia were the most prominent locations where ballast of ships was dumped. In papers discussing the occurrence of foreign plants on ballast, Smith (1867), Burk (1877), and Martindale (1877), however, do not list *L. europaeus*. From ballast ground locations, *L. europaeus* apparently spread along the Delaware River where it was later found on the banks and in the marshes from New Castle to Port Penn, Delaware, 8 September 1869 (*Commons s.n.*, NY). Commons also collected it three miles below New Castle (20 August 1874, PH), at Delaware City (5 September 1879, NY), in marshes and along a canal at Delaware City (22 September 1896, PH), along the river shore above Christiana river lighthouse at Wilmington (28 September 1898, PH), and along the river shore at Cherry Island marsh, Wilmington (16 October 1900, PH). A herbarium sheet label by Commons (4 July 1901, PH) bears the note, "now well established along the river shore from Philadelphia to Port Penn and is also common around Salem, New Jersey." The species has continued to spread and become a part of the flora. Forty-five years later, Tatnall (1946) wrote that *L. europaeus* was "common along streams, and on borders of fresh or brackish marshes, Coastal Plain of Cecil [Maryland] and New Castle [Delaware] counties; rare farther south: n. of Ocean City . . . naturalized from Europe." Until 1949, many collections from the eastern Pennsylvania-New Jersey area were deposited in the herbarium of The Academy of Natural Sciences of Philadelphia.

New York and Massachusetts

Most of the early reports for the New York City area list *L. europaeus* as coming from ballast. The earliest known record is 12 July 1877 (*Brown s.n.*, NY). It was later found at 8th Avenue and Harlem River on 4 October 1879 (*Leggett s.n.*, MICH). Brown (1879) listed *L. europaeus* among ballast plants that he found at 8th Avenue and Gowanus in New York City. He also collected a specimen from ballast near Communipaw Ferry [now part of Jersey City], New Jersey in July 1879 (*Brown s.n.*, US). N. L. Britton made a collection from ballast ground at 8th Avenue and 130 Street (September 1879, NY). Plants have also been obtained from ballast at Brooklyn in 1880 (*Schrenk s.n.*, NY), at Yonker's Wool Mill in 1898 (*Bicknell s.n.*, NY), and from Cypress Hills, Long Island, in 1905 (*Bicknell s.n.*, PH). Taylor (1915) reported the European water-horehound as occurring locally rare as a weed in waste places from New York to Virginia and considered it to be naturalized from Europe. House (1924) pointed out that the species was "locally rare as a weed in southeastern New York: naturalized from Europe."

In Massachusetts, John Robinson (1880) mentioned *L. europaeus* as "an adventitious plant and probably does not grow [i.e., is not naturalized] here [Essex County]." European water-horehound was collected on waste ground near Parker Street, Cambridge on 6 October 1894 (*B. L. Robinson s.n.*, GH). Fernald (1910) commenting upon this collection and locality wrote that *L. europaeus* "... has grown in waste land and neglected yards about the 'Tin Cañon' in Cambridge for at least sixteen years." The plant was again obtained on Parker Street in a dump on 7 November 1903 (*Moore 1537a*, GH). Fernald (1947) mentioned *L. europaeus* as occasional in waste near Boston. From the apparent lack of records, it seems that *L. europaeus* has spread very little in the Boston area. The most recent known collection for Massachusetts is cited by Seymour (1969). The specimen comes from Provincetown, 17 September 1964 (*Hinds s.n.*, NEBC).

Inland Distribution about Lake Ontario,
the St. Lawrence River, and Western Lake Erie

The distribution of *L. europaeus* along Lake Ontario, the St. Lawrence River, and Lake Erie has come about within the past 60-70 years. The first known collection is from Lake Ontario on Toronto Island, York County, 24 August 1903 (*Scott s.n.*, TRT). Succeeding collections have come from Toronto Island, as well as from locations at the east end of the lake by 1933 in the vicinity of Kingston and at the west end of the lake at Hamilton as early as 1957. Montgomery (1957) summarized the distribution of the European water-horehound for Ontario as "Infrequently found around marshes."

The following collections are known from (or near) the shore of Lake Ontario.

NEW YORK: MONROE CO.: Marsh, Irondequoit Bay, 8 August 1932 (*House* 19639, GH); marshy border of bay, Manitou Beach, 15 August 1933 (*House* 20772, GH, NY). ONTARIO: FRONTENAC CO.: Grass Creek Island, 7 mi below Kingston, 18-27 August 1933 (*Pennell* 16226, NY, PH); Eagle Lake, 23 July 1939 (*Krotokov s.n.*, TRT); opposite grain elevator, Lake Ontario Park, 23 September 1960 (*Beschel, Dore, & Hainault* 11716, DAO). HASTINGS CO.: Edge of water, Belleville, 20 July 1944 (*Groh* 2187, DAO). LEEDS CO.: Plants numerous, swampy spot at mouth of spring among drift-debris, shore of St. Lawrence, 1000-Islands Bridge, 1 August 1956 (*Dore, Soper, & Cody* 16515, DAO); local along shore of St. Lawrence at base of granitic talus, 1000-Islands International Bridge near Ivy Lea, 24 September 1960 (*Dore* 18724, DAO). LINCOLN CO.: Edge of water, Jordan 1 N, 14 September 1966 (*Davidson* 364, DAO). NORTHUMBERLAND CO.: Wooded pasture, Seymour Township, n side of the Trent River near the village of Trent River, 15 August 1952 (*Gillett* 6930, DAO). PRINCE EDWARD CO.: Edge of marsh, ca. 1 mi n of Huff Island, Loc 367, 4 August 1951 (*Soper & Heimbürger* 5402, TRT). WENTWORTH CO.: [Between the water and the railway at the extreme west end of Burlington Bay, Hamilton], 5 September 1957, 4983, 4984, 22 July 1958, 4982, 27 August 1958, 4985 (all *A. Tamsalu*, HAM). YORK CO.: Toronto Island, September 1903 (*Wilkes s.n.*, TRT), 18 August 1911 (*White* 1, GH), 20 September 1935 (*Macklin s.n.*, HAM); Harlan's Island, Toronto, 22 August 1945 (*Wage s.n.*, DAO).

The occurrence of *L. europaeus* in the St. Lawrence River valley in the Province of Quebec is very recent. Rousseau

(1968) mapped its distribution based on collections from Valleyfield (1964, *Cinq-Mars s.n.*, QFA), Iles-de-la-Paix, Cté de Beauharnois (1965, *Morency*), Ile St. Ignace, Cté de Berthier (1965, *Rouleau*), and Repentigny (1966, *Rouleau*). These locations and recent dates strongly suggest that the plants are migrating down the St. Lawrence river. Ten years earlier Dore and Gillett (1955) did not find European water-horehound during their botanical survey of the St. Lawrence seaway area upstream in Ontario.

The farthest westward inland penetration for *L. europaeus* appears to be on the islands and about the southwestern shore of the western basin of Lake Erie. Here it was first collected near the camp grounds at Bay Point Peninsula, Ottawa County, on 24 July 1966 (*Easterly s.n.*, BGSU) followed by several collections obtained in 1967 (Stuckey, 1968). The plants occur about the edges of those ponds on the Erie Islands which have connections with the water of the lake, either by a channel or by flooding during violent storms. Elsewhere, its occurrence is along the sandy portions of the shore of the mainland and around the edges of ponds or in marshland directly behind these sandy beaches. The species has not yet penetrated the extensive marshes and mud flats that are common farther inland along the Ohio and Michigan shore of Lake Erie. It is not known whether the species has migrated into Lake Erie from older stations in Lake Ontario or whether it was separately introduced and then began to spread. The local distribution pattern strongly supports the idea that the species (1) has recently invaded western Lake Erie via a water route, rather than coming overland, and (2) is spreading in western Lake Erie by propagules being transported by water. According to Ridley (1930, p. 222), the "plant is specially adapted for dispersal by river, and is very common on English river banks, where it is rapidly dispersed. The nutlets . . . float for from 12 to 15 months (according to Praeger and Guppy)."

L. europaeus is also becoming established in western Lake Erie where it is now known from 11 stations. At several

of these places many young plants have been seen with larger, older individuals of the same species. Many of these young plants are attached to older plants via runners and slender rhizomes. At Terwilliger's Pond on South Bass Island some plants had 5-10 runners ranging up to two feet in length which touched the ground at various places, formed roots, and had initiated new plants. The species is spreading vegetatively at individual sites. At places where disturbance by wave action is considerable, such as at Airport Point and Peach Point on South Bass Island or at Lakeview Park in Port Clinton, *L. europaeus* was not found in 1969, although it was present at these sites in 1967 or 1968. The floras at these sites were drastically altered in 1969 because the unusually higher water level, and wave action had destroyed many of the species along the low rocky and sandy beaches.

The following collections of *L. europaeus* from the western basin of Lake Erie were taken by R. L. Stuckey, unless otherwise noted, and are in The Ohio State University Herbarium (OS) with duplicates elsewhere as stated.

OHIO: ERIE CO.: A few plants on wet sand and gravel dumped in the quarry from the State Park Beach, in the bottom of the north-west limestone quarry below the glacial grooves, Kelley's Island, 14 August 1969, 8238 (CAN, GH, MICH). OTTAWA CO.: Occasional in shallow water at Smith's Pond, s e corner of North Bass Island, 1 August 1967, 4741; Honey Point and Smith's Pond, North Bass Island, 22 August 1969 (*Phillips* 181, OS); South Bass Island — occasional at water's edge along muddy w bank of Terwilliger's Pond, 18 August 1967, 5184 (SMU), 29 August 1967, 5431, Terwilliger's Pond, 20 August 1969, (*Phillips* 180, OS), occasional on thin, wet soil over dolomite rock at Airport Point (opposite Starve Island) on the s e shore, 27 August 1967, 5422; a few plants about boat dock on south shore of Peach Point, Fishery Bay, 24 August 1968, 7499 (DAO); occasional in wet sand behind dune at Sand Point [Bay Point], ca. 2.5 mi s of the town of Marblehead, 8 September 1967, 5716, 12 September 1968, 7685 (CAN, GH, PH); a few plants in ditch along e edge of causeway, East Harbor, East Harbor State Park, 14 August 1968, 7362; occasional on mud flat at e edge of road behind beach at East Harbor, East Harbor State Park, 23 August 1968, 7471, (DAO); East Harbor State Park, 31 July 1969, (*Phillips* 78, OS); a few plants in wet sand at edge of wooded area behind

beach between mud flat formed in previous year, East Harbor, East Harbor State Park, 25 August 1969, 8279; portion from one of four plants seen on wet, sandy beach (not seen here in 1967), NE 1/4 Sec. 5, T6N, R14E, Portage Twp., Lakeview Park, e edge of Port Clinton, 19 August 1968, 7451. LUCAS CO.: Occasional on mud flat along the main driveway at the north edge of Magee Marsh, Crane Creek State Park, Sec. 12, s e corner of Jerusalem Twp., ca. 10 mi e of the town of Oregon, 21 August 1967, 5307; occasional along edge of marsh behind barrier beach, west end of Crane Creek State Park, Magee Marsh, . . . , 27 August 1968, 7541. MICHIGAN: MONROE CO.: Occasional in drying cat-tail marsh near bay of Lake Erie, Sec. 33, Erie Twp., ca. 3.5 mi s e of the town of Erie, 14 September 1968, 7755; occasional in wet sand on beach along shore of Lake Erie, s w corner of Sec. 35, Frenchtown Twp., n edge of Sterling Monroe State Park, e edge of the city of Monroe, 14 September 1968, 7760 (GH).

Unlike the distributional patterns of the non-indigenous *Rorippa sylvestris* (Stuckey, 1966) and *Epilobium hirsutum* (Stuckey, 1970), in which these species apparently migrated inland across central New York State, *L. europaeus* has not been found in central New York State. It appears, therefore, that *L. europaeus* became separately introduced and spread in the Lake Ontario, St. Lawrence River, and Lake Erie waterway independent of its introduction and spread along the east coast of the United States. All of the known localities for the European water-horehound are along the shores of the St. Lawrence river and Lakes Ontario and Erie, except the one from the village of Trent River in Northumberland County, Ontario.

Isolated Occurrences

Several reliable records from isolated locations away from the areas where *L. europaeus* has become established are known. Erskine (1951) reported *L. europaeus* as an adventive species at the edge of a ballast dump, Steele's Pond, Point Pleasant, Halifax County, Nova Scotia, 24 August 1949 (*Erskine & Erskine s.n.*, ACAD). Burk (1961) mentioned the species as occurring at the edge of a freshwater pool, about one half mile from Hatteras lighthouse, Buxton Woods, Hatteras Island, Dare County, North Caro-

lina, 2 September 1960 (*Burk* b55-8, NCU). This is apparently the first record of the species for North Carolina. Radford, Ahles, and Bell (1968) reported it as rare in marshes which are frequently brackish. Along the Gulf of Mexico, *L. europaeus* is known from Cat Island, Harrison County, Mississippi, 11 August 1900 (*Lloyd & Tracy s.n.*, NY). This record was cited by Lloyd and Tracy (1901) and Lowe (1921).

Present Status

In eastern North America *L. europaeus* has become established at several seaport cities and from there has spread locally. The species appears now to be established in six rather well-defined geographical areas. In figure 2, these geographical areas are listed on the vertical axis and time is represented on the horizontal axis. All specimens examined from these areas are each marked with a dot along the horizontal axis at the corresponding five-year interval of collection. This figure shows (1) the earliest specimen record known for each geographical area, and (2) that the species has become established in each geographical area, because specimens have been found and obtained, in the years following the original collection and even up to the present time in certain areas. It can be gleaned from the information in figure 2 that no recent collections are known from the Virginia, Philadelphia, or New York City areas. It seems doubtful that *L. europaeus* has disappeared from these areas where the species has long been established. Rather, this gap in information suggests that collections of plants are not being made in areas that have been rather well-studied in the past. Any flora is continually changing and botanists should continue to keep records and specimens of the flora through time.

Summary

The probable localities and time of introduction and spread of *L. europaeus* in North America have been worked out from the literature and herbarium records. These

sources reveal that many of the early collections came from ballast and waste ground. Its introduction probably was from ships' ballast at several east coast seaports, such as Norfolk, Camden, Philadelphia, Wilmington, New York City, and Boston. From these locations the species appears to have spread locally and became established. Inland, *L. europaeus* is not known from collections before 1900. Since then it has spread and is becoming naturalized as part of the shore flora of the upper portion of the St. Lawrence River, along Lake Ontario, and in southwestern Lake Erie.

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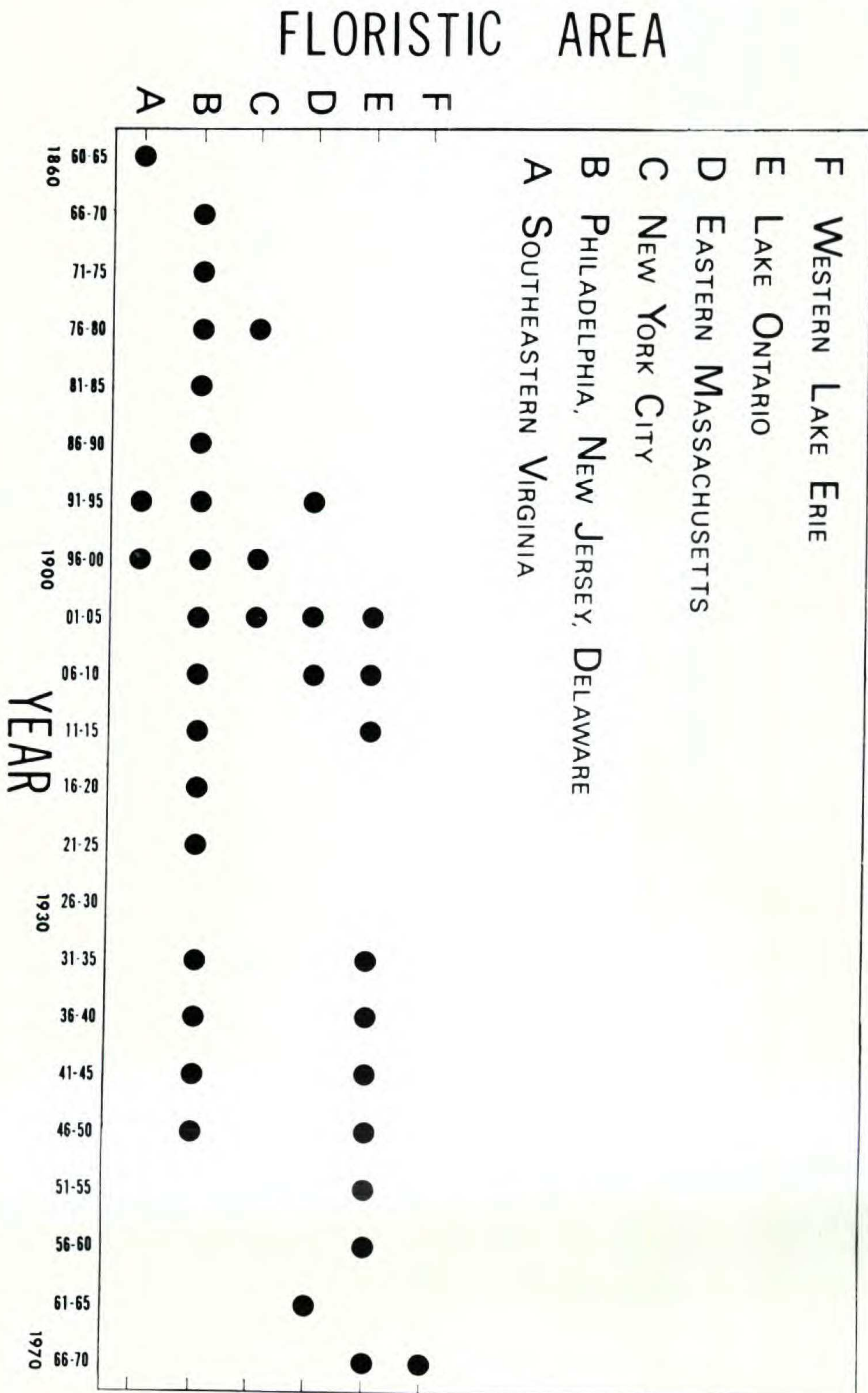


Fig. 2. Dates of herbarium specimens verifying the time of spread and establishment of *Lycopus europaeus* in six floristic areas of eastern North America. Each dot represents one or more herbarium specimens collected within a five-year period for each floristic area.

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TABLE I. MISLEADING PUBLISHED REPORTS OF *L. EUROPAEUS* WITH CORRECTED NAMES

Locality	Published Name	Reference	Revised Name	Reference
Northern United States	<i>L. europaeus</i> L. var. <i>sinuatus</i> (Ell.) Gray	Gray, 1858, 1867	<i>L. sinuatus</i> Ell.	Gray, 1870
Northern United States	<i>L. europaeus</i> var. <i>integrifolius</i> Gray	Gray, 1858, 1867	<i>L. rubellus</i> Moench	Gray, 1870
Northern United States	<i>L. europaeus</i> var. <i>sessilifolius</i> Gray	Gray, 1867	<i>L. sessilifolius</i> Gray	Gray, 1870
Western States	<i>L. europaeus</i>	Riddell, 1834	probably <i>L. americanus</i> Muhl.	Stuckey & Phillips
Carolinas	<i>L. europaeus</i>	Walter, 1788	<i>L. americanus</i>	Henderson, 1962
Colorado, San Luis Valley	<i>L. europaeus</i>	Rothrock, 1874	probably <i>L. americanus</i>	Stuckey & Phillips
Delaware, New Castle County	<i>L. europaeus</i> var. <i>sinuatus</i>	Tatnall, 1860	<i>L. americanus</i>	Stuckey & Phillips
Georgia & South Carolina	<i>L. europaeus</i>	Elliott, 1821	<i>L. americanus</i>	Weatherby, 1942
Illinois	<i>L. europaeus</i> var. <i>sinuatus</i>	Patterson, 1876	<i>L. americanus</i>	Jones & Fuller, 1955
Illinois	<i>L. europaeus</i> var. <i>integrifolius</i>	Patterson, 1876	<i>L. rubellus</i>	Jones & Fuller, 1955
Illinois, Wabash Valley	<i>L. europaeus</i>	Schneck, 1876, 1877	<i>L. americanus</i>	Jones & Fuller, 1955
Illinois, Chicago & Vicinity	<i>L. europaeus</i>	Babcock, 1872	<i>L. americanus</i>	Jones & Fuller, 1955

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Locality	Published Name	Reference	Revised Name	Reference
Illinois, Henderson County	<i>L. europaeus</i>	Patterson, 1874	<i>L. americanus</i>	Jones & Fuller, 1955
Illinois, Piatt County	<i>L. europaeus</i> var. <i>sinuatus</i>	Seymour, 1883	<i>L. americanus</i>	Jones & Fuller, 1955
Illinois, Piatt County	<i>L. europaeus</i> var. <i>integrifolius</i>	Seymour, 1883	<i>L. rubellus</i>	Jones & Fuller, 1955
Indiana, Fayette & Hamilton Counties	<i>L. europaeus</i>	Coulter, 1900	<i>L. americanus</i>	Deam, 1940
Kansas	<i>L. europaeus</i>	Smyth, 1889	probably <i>L. americanus</i>	Stuckey & Phillips
Massachusetts, Boston	<i>L. europaeus</i>	Bigelow, 1824	probably <i>L. americanus</i>	Stuckey & Phillips
Massachusetts, Penikese Island	<i>L. europaeus</i>	Jordan, 1874	<i>L. americanus</i>	Lewis, 1924
New York, Columbia County	<i>L. europaeus</i>	Woodworth, 1839, 1840	<i>L. americanus</i>	McVaugh, 1935
Ohio	<i>L. europaeus</i> var. <i>sinuatus</i>	Beardslee, 1878	<i>L. americanus</i>	Stuckey & Phillips
Ohio	<i>L. europaeus</i>	Kellerman and Werner, 1893; Kellerman 1899; Kellerman & Kellerman, 1900; Newberry, 1860	probably <i>L. americanus</i>	Stuckey & Phillips
Ohio, Miami Valley	<i>L. europaeus</i>	Morgan, 1878	probably <i>L. americanus</i>	Stuckey & Phillips
Ontario, Prescott	<i>L. europaeus</i>	Billings, 1862	<i>L. uniflorus</i>	Dore, 1962